

WE CLAIM:

1. An insecticidal bait composition comprising:
 - (a) an insecticidal effective amount of a water-sensitive insecticide;
 - (b) an effective amount of an insecticide stabilizer; and
 - (c) a base bait containing water, and at least one of a feeding stimulant and an attractant.
2. The composition of claim 1 wherein insecticidal effective amount is characterized by the insecticidal bait composition having an insecticidal potency KT50 of less than about 24 hours after exposure.
3. The composition of claim 1 wherein an effective amount of an insecticide stabilizer is from about 5 to about 60 wt-% of the total weight of the insecticidal bait composition.
4. The composition of claim 1 wherein the base bait has an insect attractancy characterized by a base bait which retains insect attractancy while the composition retains insecticidal effectiveness.
5. The composition of claim 1 wherein the insecticide stabilizer lengthens the insecticidal effectiveness of the water-sensitive insecticide by at least about 10 percent compared to the insecticidal bait composition free of the insecticide stabilizer.
6. The composition of claim 5 wherein the insecticide is acephate and the stabilizer is boric acid.
7. The composition of claim 5 wherein the insecticide is acephate.
8. The composition of claim 5 wherein the stabilizer is boric acid.

9. The composition of claim 1 wherein insecticidal effectiveness of the insecticide is lengthened by from about 10 to about 100 percent compared to an insecticidal bait composition free of the insecticide stabilizer.
10. The composition of claim 9 wherein the insecticide comprises acephate.
11. The composition of claim 9 wherein the stabilizer comprises boric acid.
12. The composition of claim 1 wherein insecticidal effectiveness of the insecticide is lengthened by from about 10 to about 50 percent compared to an insecticidal bait composition free of the insecticide stabilizer.
13. The composition of claim 12 wherein the insecticide comprises acephate.
14. The composition of claim 12 wherein the stabilizer comprises boric acid.
15. The composition of claim 1 wherein the insecticidal effective amount of a water-sensitive insecticide comprises from about 0.1 to about 5 wt-% acephate; the effective amount of an insecticide stabilizer comprises from about 5 to about 60 wt-% boric acid; and the base bait comprises from about 3 to about 40 wt-% water.
16. The composition of claim 1 wherein the feeding stimulant, the attractant, or mixtures thereof, comprise a protein, a carbohydrate, a fat, or mixtures thereof.
17. The composition of claim 1 wherein the bait base further comprises a calf's milk replacer, sucrose, bakers yeast extract, starch, sorbitol, fructose, sodium chloride, potassium sorbate, citric acid, or mixtures thereof

18. The composition of claim 1 wherein the bait base further comprises a gelling agent.
19. The composition of claim 18 wherein the gelling agent comprises about 0.1 to about 5 wt-% of the bait base.
20. The composition of claim 1 wherein the insecticide is acephate.
21. The composition of claim 1 wherein the insecticide stabilizer is boric acid.
22. The composition of claim 1 wherein the insecticide stabilizer is a nanoparticle component.
23. The composition of claim 1 wherein the insecticide stabilizer comprises a nanoparticle component in an amount of from about 0.1 to about 50 wt-%.
24. The composition of claim 1 wherein the insecticide stabilizer comprises a boric acid compound, a nanoparticle component, or a mixture thereof, in an amount of from about 0.1 to about 50 wt-%.
25. An insecticidal bait composition comprising: /
 - (a) about 0.10 to about 2 wt-% acephate insecticide;
 - (b) about 5 to about 50 wt-% boric acid insecticide stabilizer;
 - (c) about 10 to about 30 wt-% water; and
 - (d) the balance being a bait base.
26. The composition of claim 25 wherein the bait base comprises a feeding stimulant, an attractant, or mixtures thereof.

27. The composition of claim 26 wherein the feeding stimulant, the attractant, or mixtures thereof comprise a protein, a carbohydrate, a fat, or mixtures thereof.
28. The composition of claim 25 wherein the bait base further comprises a gelling agent in an amount of from about 0.1 to about 5 wt-% of the bait base.
29. The composition of claim 25 wherein the acephate is in an amount of from about 1 to about 2 wt-% and the boric acid insecticide stabilizer is in an amount of from about 15 to about 20 wt-% of the bait composition.
30. The composition of claim 25 further comprising a nanoparticle component in an amount of from about 0.1 to about 50 wt-% of the total weight of the composition.
31. A method of prolonging the insecticidal activity of a water soluble, water degradable insecticide in a bait composition containing the insecticide, comprising combining the bait composition with from about 5 to about 60 wt-% based on the total weight of the combined composition of an effective amount of an insecticide stabilizer.
32. The method of claim 31 further comprising mixing the water degradable insecticide with the insecticide stabilizer prior to combining with the other bait components.
33. The method of claim 31 wherein the insecticide comprises acephate.
34. The method of claim 31 wherein the insecticide stabilizer comprises a borate compound.
35. The method of claim 31 wherein the insecticide stabilizer comprises a nanoparticle component.

36. A method of controlling insect pests comprising applying to areas to be controlled the composition of claim 1.
37. The method of claim 36 wherein the insect pests are cockroaches.
38. The method of claim 36 wherein the insecticide is acephate.
39. A method of controlling insect pests comprising applying to areas to be controlled a composition of claim 25.
40. The method of claim 39 wherein the insect pests are cockroaches.
41. An insecticidal composition comprising: /
 (a) an effective insecticidal amount of a water-sensitive insecticide;
 (b) an effective amount of water to dissolve at least a part of the water-sensitive insecticide, wherein at least a portion of the water-sensitive insecticide is dissolved in the water;
 (c) an effective amount of a water-sensitive insecticide stabilizer, wherein the stabilizer is a borate compound, a nanoparticle component, or mixtures thereof; and
 (d) an effective amount of a bait base comprising an attractant, a feeding stimulant, or mixtures thereof.
42. The composition of claim 41 wherein the borate compound is boric acid, a borate salt, or mixtures thereof.
43. The composition of claim 41 wherein the nanoparticle component comprises metal hydroxide nanoparticles, metal oxide nanoparticles, or mixtures thereof.
44. The composition of claim 43 wherein the metal is selected from the group consisting of Mg, Ca, Si, Ti, Zr, Fe, V, Mn, Ni, Cu, Al, Zn, and mixtures thereof.

45. The composition of claim 44 wherein the nanoparticle component comprises titanium dioxide.
46. An insecticidal bait composition prepared by the process comprising:
combining
- (a) an insecticidal effective amount of a water-sensitive insecticide;
 - (b) an effective amount of an insecticide stabilizer; and
 - (c) a base bait containing water, and at least one of a feeding stimulant and an attractant.
47. A process for preparing a ready-to-use insecticidal bait composition comprising:
- (a) dissolving a water sensitive insecticide in a specified amount of water;
 - (b) combining the resulting mixture of insecticide and water with an effective amount of an insecticide stabilizer;
 - (c) combining the resulting mixture with a bait base comprising a feeding stimulant, an attractant, or both, and optionally containing one or more gelling agent(s);
 - (d) optionally agitating the resulting combination; and
 - (e) optionally allowing the mixed combination to form a gel or paste.
48. A process for stabilizing a water-sensitive insecticide contained in an insecticidal bait composition comprising:
- (a) dissolving a water-sensitive insecticide in a specified amount of water;
 - (b) mixing an effective amount of an insecticide stabilizer with a bait base containing at least one of a feeding stimulant and an attractant;
 - (c) combining the resulting insecticide-water mixture with the resulting stabilizer-bait base mixture; and
 - (d) optionally agitating the resulting combination.

49. A kit for dispersing an insecticidal bait composition comprising:
- a) a water-sensitive insecticide in admixture with a insecticidal activity stabilizing amount of a borate compound, a nanoparticle component, or mixtures thereof; and a base bait; and
 - b) a disperser for dispersing the insecticidal bait.
50. The kit of claim 49 wherein the disperser comprises a dispenser, a trap, or applicator.
51. A kit for application of an insecticidal bait composition comprising:
- a) a water-sensitive insecticide in admixture with a insecticidal activity stabilizing amount of a borate compound, a nanoparticle component, or mixtures thereof; and
 - b) a base bait.
52. The kit of claim 51 further comprising a disperser for dispersing the insecticidal bait composition.